

# Free subgroups of lattices

Lewis Bowen

**Abstract:** Let  $G$  be any locally compact, unimodular, metrizable group. The main result of the talk, roughly stated, is that if  $F < G$  is any finitely generated free group and  $\Gamma < G$  any lattice, then up to a small perturbation and passing to a finite index subgroup,  $F$  is a subgroup of  $\Gamma$ . This result has recently been used by Lackenby, Long and Reid to show that, for cocompact Kleinian groups, LERF implies the Lubotzky–Sarnak conjecture. Another application, due to Lackenby, is that every Kleinian group that contains a finite noncyclic subgroup is either finite, virtually free, or contains a surface subgroup.